1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

from the *terre accidentée* which borders the Wied Incita and the Wied il-Kbir, the light Globigerina soils can only well support the grains and sulla. Even more striking is the fact that both in areas where irrigation water is comparatively abundant, as in the Wied l-Iemu (south-west of Rabat), and on the relatively deep and fertile soils of the Bingemma Lowlands and the Wied il-Ghasel, wheat and barley are treated as crops which make little demand on water, manure and tillage and therefore they are to be found in the same environments as intensive market gardening. On the bleaker or less well mantled hillsides, barley, patch sown between rock outcrops, or regarded as a catch crop gamble, usually becomes supreme. It is the more surprising therefore that average yields are relatively high (wheat and barley 22.4 bushels per acre for the decennial period 1949-58). It is doubtful however whether any but a small fraction of the hardland crop yields are represented in statistical returns, particularly since much of these crops are individually inter-cultivated with other crops such as peas and vetches. Even on good land, a considerable total acreage of cereals must avoid statistical measurements - the narrow boundary demarcation hedges of barley in the Wied tal-Pwales and the windbreak ridges of wheat near Ghajn Tuffieha.

Moreover, and here appears the crux of the matter, most of the poor grain crops and a large proportion of others are pulled green for fodder rather than threshed for grain. This is true not only of *Ferrana* - green barley - but also of much of the wheat. This use of the cereals as grain and 'hay' crops give them an extra value in that land under wheat and barley is not necessarily unusable for other crops for the full life cycle of the grains. The danger here lies in the deprivation of the soil of a great deal of organic matter that might be more profitably used for other crops given a revaluation of rotations, and in the encouragement of soil blowing, particularly in the windy Spring months, by the removal by pulling of the whole plant. Stubble-mulch farming so often associated with the 'Ard' is by no means general in Malta.

As shown in Fig. 71, in Malta, only in the high-value heavily irrigated Wied tal-Pwales are the cereals other than dominant. Other points of significance are best examined regionally (see Chapter VIII). In Gozo (Fig. 72), wheat and barley predominate on the most level Globigerina platforms lying below the sulla-clad clay slopes. They are unimportant only in the tree-crop zone north of Nadur.

The differentiation between cultivation of barley and wheat in general is essentially one between hardy and less hardy grain types.

FODDERS AND FORAGES

Sulla, green barley, vetches, lucerne, chickpeas, the 'caterpillar plant' (*Widna*) and broad beans are the main forage crops. The leguminous character of all the forages, excepting barley, is worthy of note, and of the herbs gathered as 'wild' hay, by far the greatest number also are leguminous, including among their number many species of *Medicago*.

In the cultivation and use of these fodder crops, there are several features which are peculiar to the Maltese Islands and which deserve close attention. In the first place, all the forages, including sulla which is a true perennial, are grown strictly as annuals in close rotations of the types exemplified in the section on Husbandry (Chapter X C). They are all capable of rapid maturation into 'hay'. This situation is a natural consequence of the virtually unique historical *creation* of most of the tillable land in response to population pressure. All land which is cultivable has to bear at least three crops every two years, and in many cases five or six. Land which is not cultivable is karst; bare, calcareous rock interspersed with small soil pockets and crevices. There is very little land which can be put under perennial pastures or grasses that is not already carrying a close sequence of soil-building and soil-exhausting crops. The introduction of perennials into a system such that, even in the dry-farming regions, there is remarkable diversification would be as revolutionary as the displacement of leguminous forages by other types.

Secondly, fodders are almost invariably cut green or as hay crops and stall-fed to livestock. The peripatetic herds of goats and sheep which live on the rock

[TEXT Continues on P. 199]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

wastelands and roadside verges are occasionally turned on to sulla fields and on to bastard fallow but that is all. This, too, is a necessary consequence of the pressure on land resources mentioned above: land is too precious to be used as pasture or even as true fallow *vaine pâture*. A consequent disadvantage is that, in the enforced absence of folding, dung is expensive and rarely applied.

Thirdly, much more than in other Mediterranean areas of dry farming, the Maltese cultivators are already alive to the necessity of raising cash crops which are also rotation crops, and are capable of choosing multi-purpose plants for catch-drop use. Broad beans, together with bread and *pasta*, form the basis of the countryman's diet but are also used as horse and mule fodder, depending on crop quality and ruling prices. Chickpeas similarly have alternative uses as dry fodder, green vegetables or coffee substitutes. Fodder crop improvement or change is therefore not simply a matter of elevating standards of primitive farming, but implies an agricultural revolution.

Given this situation, it would seem that there are only two reasonable methods of increasing fodder production in the near future, assuming that such an increase is desired. The first is that of devoting more scarce irrigated land to leguminous fodder production. From the economic point of view, any diversion of land now producing irrigated vegetables to forage growing would be of doubtful value. Malta, even now, is not self-supporting in vegetable crops such as tomatoes, and dietetically would probably benefit from an even greater consumption of green vegetables. Though a net exporter of potatoes and onions, Malta has to import unnecessarily large quantities of these same products. Moreover, as examined in connection with Vegetables and Fruit Crops (pp.213-219), the use of irrigated land for fodder growing would debar the development of Malta's only possible large-scale exports - fruits and early specialised vegetables. The loss of such an important export possibility would weigh heavily against the gain in the production of fodder.

The second possibility is that of the replacement of the poor wheats and barleys by new hybrid sorghums. Here too there are difficulties. Though sorghums generally have low transpiration rates, their large leaf areas make them more dependent on subsoil water than the short, local barleys. On the other hand, they survive early droughts better than most grains. A second possible danger lies in our ignorance concerning their vulnerability to indigenous insect pests. The third difficulty is social. The poor barley lands on which sorghums might be grown, as indicated earlier, are those in which terrain makes it most necessary for continuous and arduous manual labour to be applied. It is precisely these areas, vulnerable to soil erosion, which are most likely to be neglected or abandoned by a society with rising living standards and demands. Nevertheless, here may lie both an easy and efficient way of improving and increasing fodder production without mortgaging the future of the best lands.

SULLA - HEDYSARIUM CORONARIUM L.

Sulla, the most important fodder crop, is a perennial legume indigenous to the Mediterranean. The variety *Africa* or *Gaulitana*, erect, slightly branched and often growing 4 to 6 feet in height, is usually found, particularly in Gozo: the more prostrate and finer foliaged varieties such as *Diffusa* and *Prostrata* are more recently introduced and less common.

Matured seed is sown in late summer and it germinates after the first autumnal rains, flowering between March and May. It is then usually cut or pulled and either used as green fodder or, more commonly, sun-dried as hay. Little affected by pests and diseases, sulla develops luxuriant foliage and extensive root systems. It therefore provides good anti-erosion soil cover as well as possessing excellent powers of nitrogen fixation. Water requirements are lower than for any of the cultivated *Trifolium* or *Medicago* plants. In first flowering, its protein content is high, but some of the fodder quality is lost by the delaying of harvesting until the yield in volume is highest and also by poor storage. Much sulla is sold off the farm.

As Fig. 73 shows, the distribution of sulla in Malta corresponds in general with the distribution of cultivated land, but it is noticeably less important in

[Text Continues on p. 203]

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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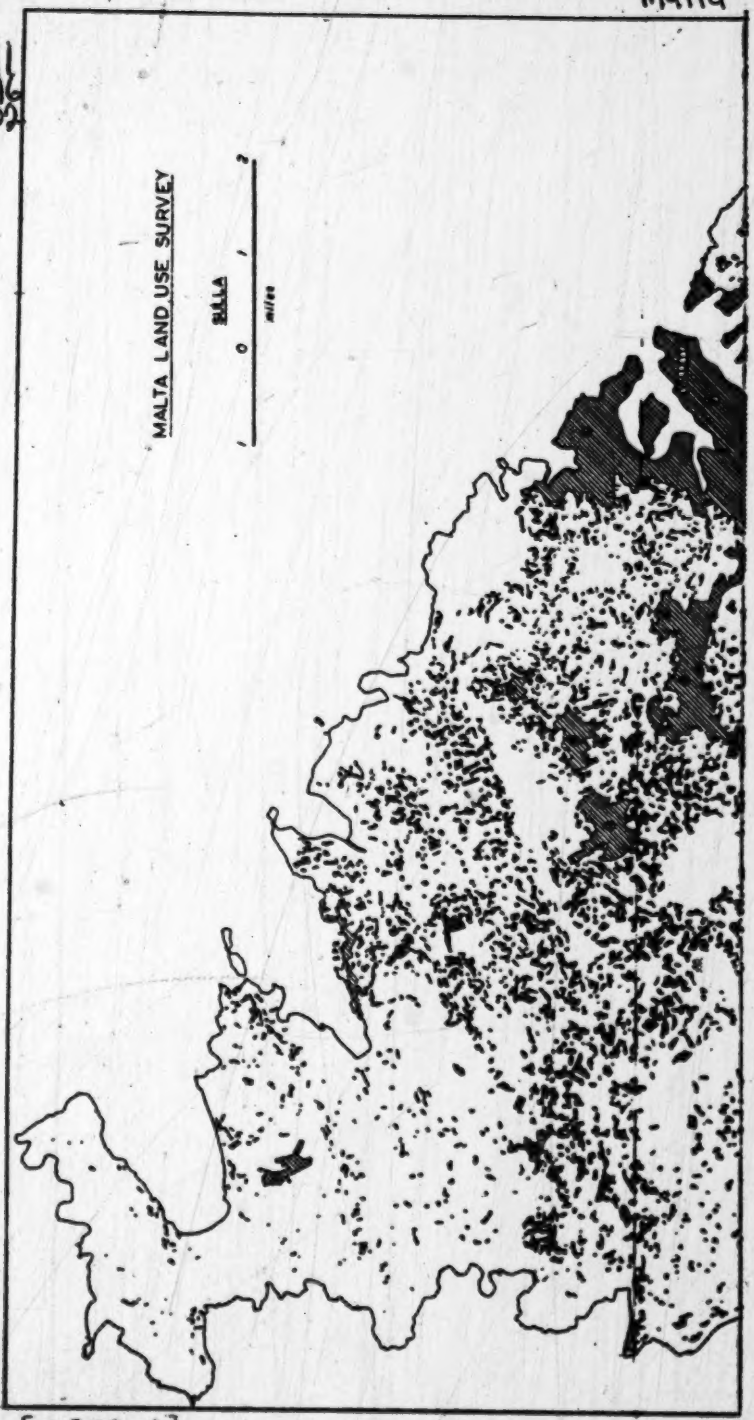

[p. 200-A]

Fig. 73 Malta: Land Use Survey: Sulla.

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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Fig. 73

Malta: Land Use Survey: Sulla.

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1: Bowen-Jones et al. K-5 (1955-1958) 1961
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GOZO

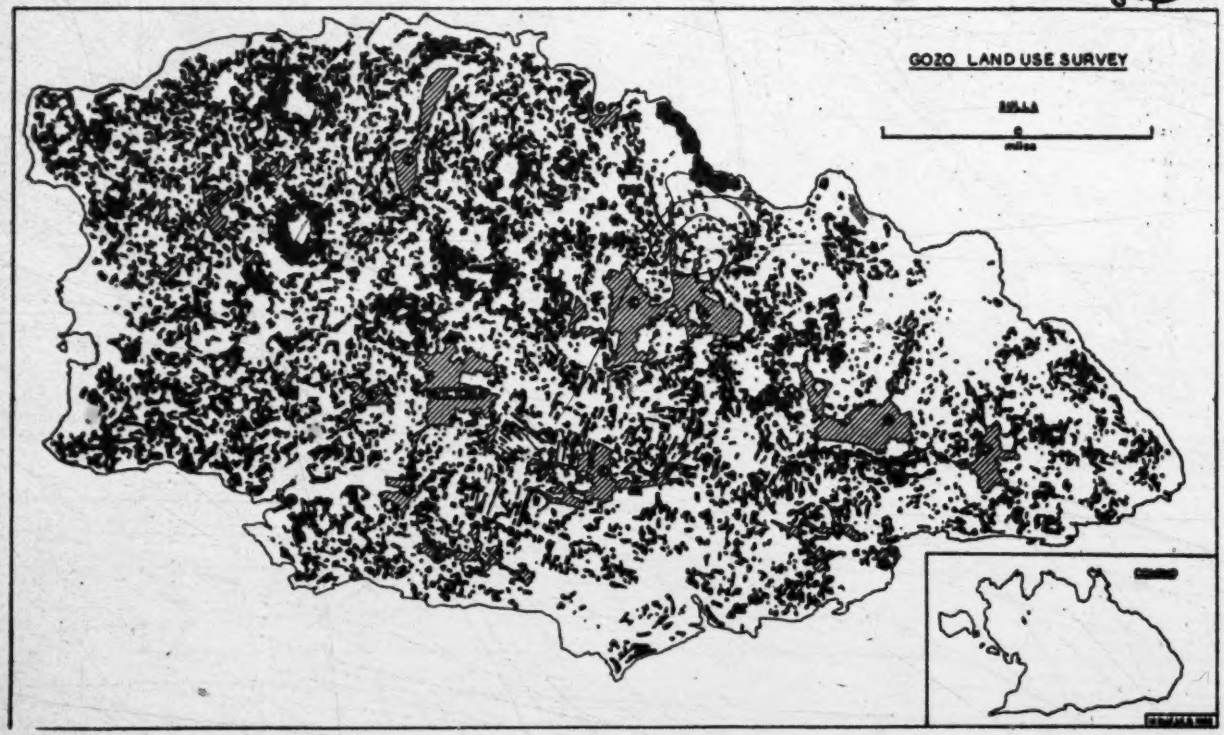

Fig. 74 Gozo: Land Use Survey: Sulla.

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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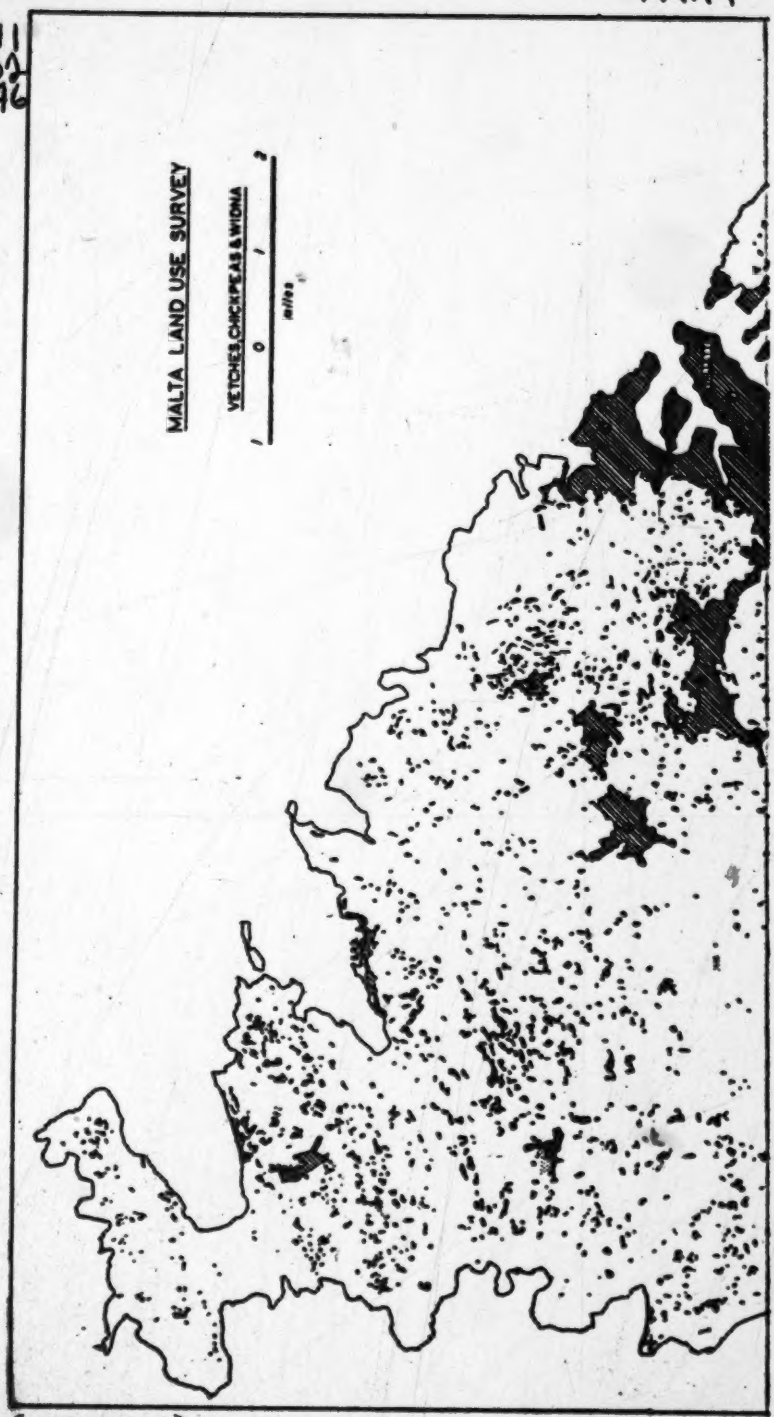

Fig. 75 — Malta: Land Use Survey 1

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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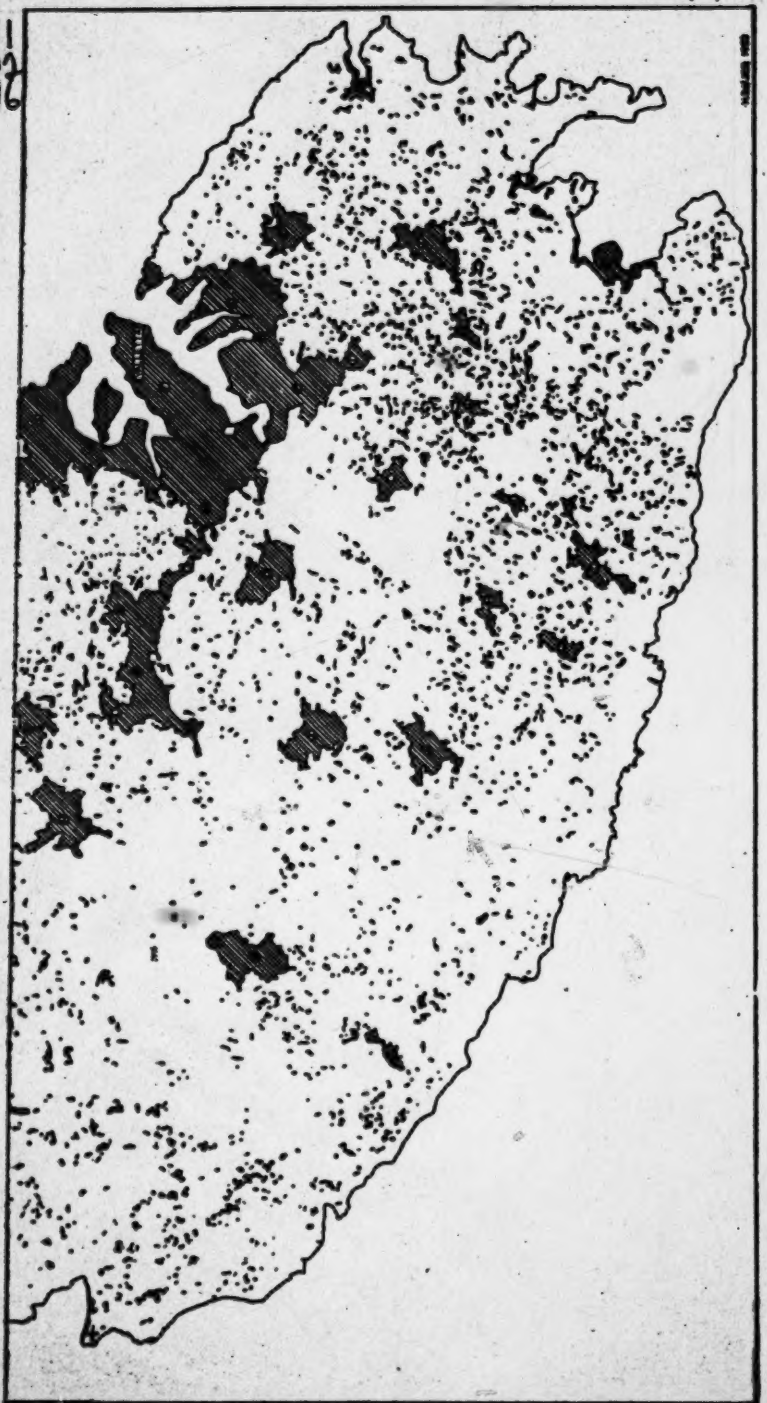

Fig. 75 Malta:
Land Use Survey: Vetches and Chickpeas.

[p. 202-B]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

well-watered areas. The clay slopes carry perceptibly less sulla than the Globigerina regions, while the crop is almost absent from the irrigated depressions of the Upper Coralline zone, i.e. Wied tal-Pwales and the Marfa oases. It is also fairly sparse on the higher and more exposed thin-soiled lands. Thus sulla may be said to be ubiquitous save that in extreme environmental conditions it is replaced either by poorer but hardier fodders or by higher value cash-crops.

Fig. 74, of sulla cultivation in Gozo shows some striking contrasts. The only area in which it is not of importance is the tree-crop zone lying north of Nadur. In the whole of the Western and Northern regions, sulla, annual or self-seeded perennial, almost completely mantles the sweeping clay slopes. Some difficulty has been experienced in attempting a differentiation between cultivated sulla and 'natural' rough pasture. Fig. 94, was therefore devised (partly) to include this latter category of land which is almost absent in Malta.

The main reasons for the relatively great acreage of sulla of all kinds in Gozo are to be found, first, in the character of the land, secondly, and in part consequently, in the character of the economy. The Blue Clay slopes lying below the small surviving fragments of Upper Coralline Limestone are as a whole less well watered and make more intractable dry-farming land than those of Malta. Exceptional are the series of Wieds on the northern face of the Nadur upland which are given over to tree-crops and vegetables. Livestock plays a greater part in the farming economy of Gozo than in Malta and hence sulla ranks roughly equal in acreage with the cereals. Conversely, the absence of any large Gozitan urban market for vegetables, together with the relative difficulty of transporting such commodities regularly to Malta, reduces competition for the better land. (See also p. 287.)

VETCHES AND CHICKPEAS

Included in Figs. 75 and 76, are several other much less important fodders excluding lucerne. The minor forages and fodders are generally found in small fields and patches throughout the cultivated area. *Widna (Scorpiurus Muricatus* var. *Subvillosus L.)* is both cultivated and gathered wild for goats and rabbits and to a lesser, traditional, extent for fat cattle:-

'Il-fart li jiekol il-widna jaghmel il-laham bil widna' = 'Cattle which feed on widna put on flesh by the widna'.

Chickpea or *Gram* (*Cicer Arietinum*), because of the irritating toxicity of the juice, is best used as a dry fodder. Vetch (*Vicia Sativa*) is most often grown on small or exposed terraces of good soil. Bitter vetch, *'Zotfa'* (*Vicia Ervillia*), has some of the disadvantages of *Gram* but is more suitable a crop than sweet vetch for arid areas, and for land topographically difficult for successful sulla. Lucerne, in the Maltese Islands, has ranked as a minor fodder because of its high water needs. The total acreage is still small and it is not cultivated except as a summer irrigated or watered crop.

In Malta, these minor fodders are most important in the Eastern regions where small holdings and part-time farming are most common. They are of considerable total significance on the Upper Coralline hills where they supplant sulla, broad beans and peas because of their greater resistance to exposure and tolerance of poor, thin soils. Similarly in Gozo they are most commonly found in areas of difficulty such as the eastern uplands and the hills south-west of Sannat.

BROAD BEANS AND PEAS (*Ful* and *Piselli*)

As noted earlier, these two crops are undifferentiated in Figs. 77 and 78. No significant regional variations in the distribution of these crops is to be observed. They are grown in all cultivated areas, usually in small plots, the beans occasionally inter-rowed with barley in larger fields. This is a natural consequence of their tolerance of a wide range of conditions and of their dual use, already noted, as food and fodder.

[See p. 229 -- Analyst]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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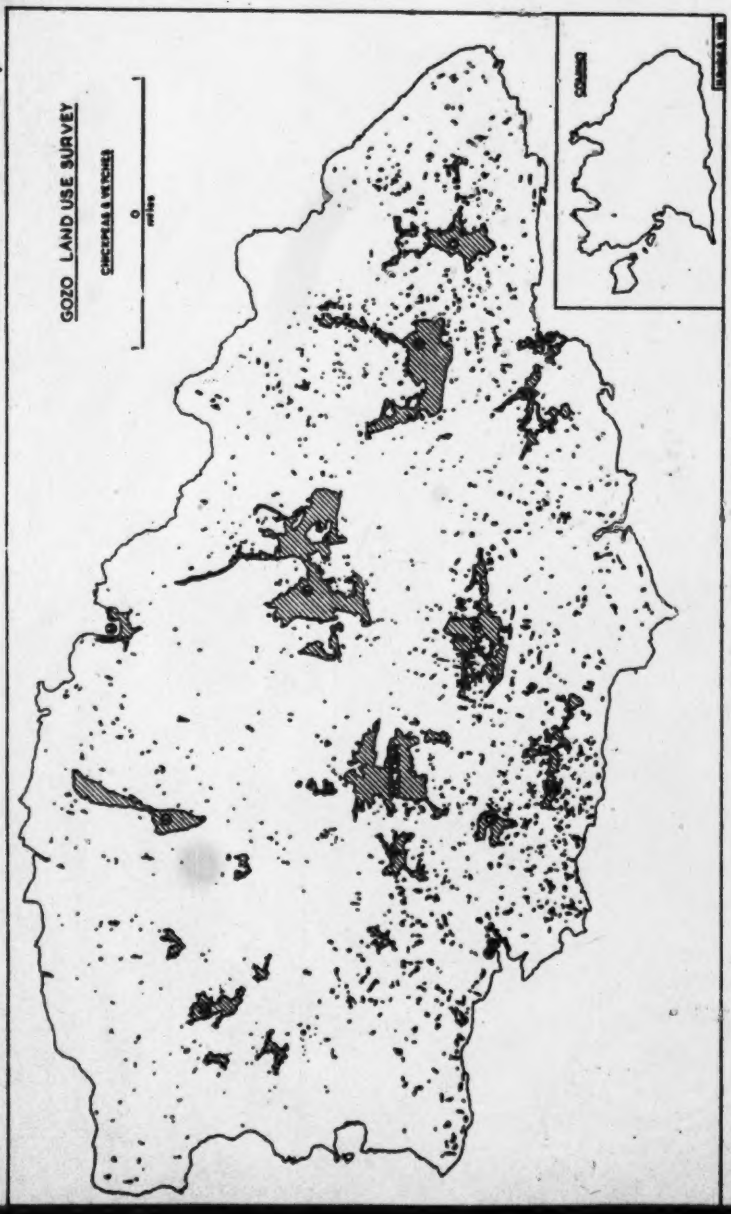

Fig. 78 Gozo: Land Use Survey: Vetches and Chickpeas.

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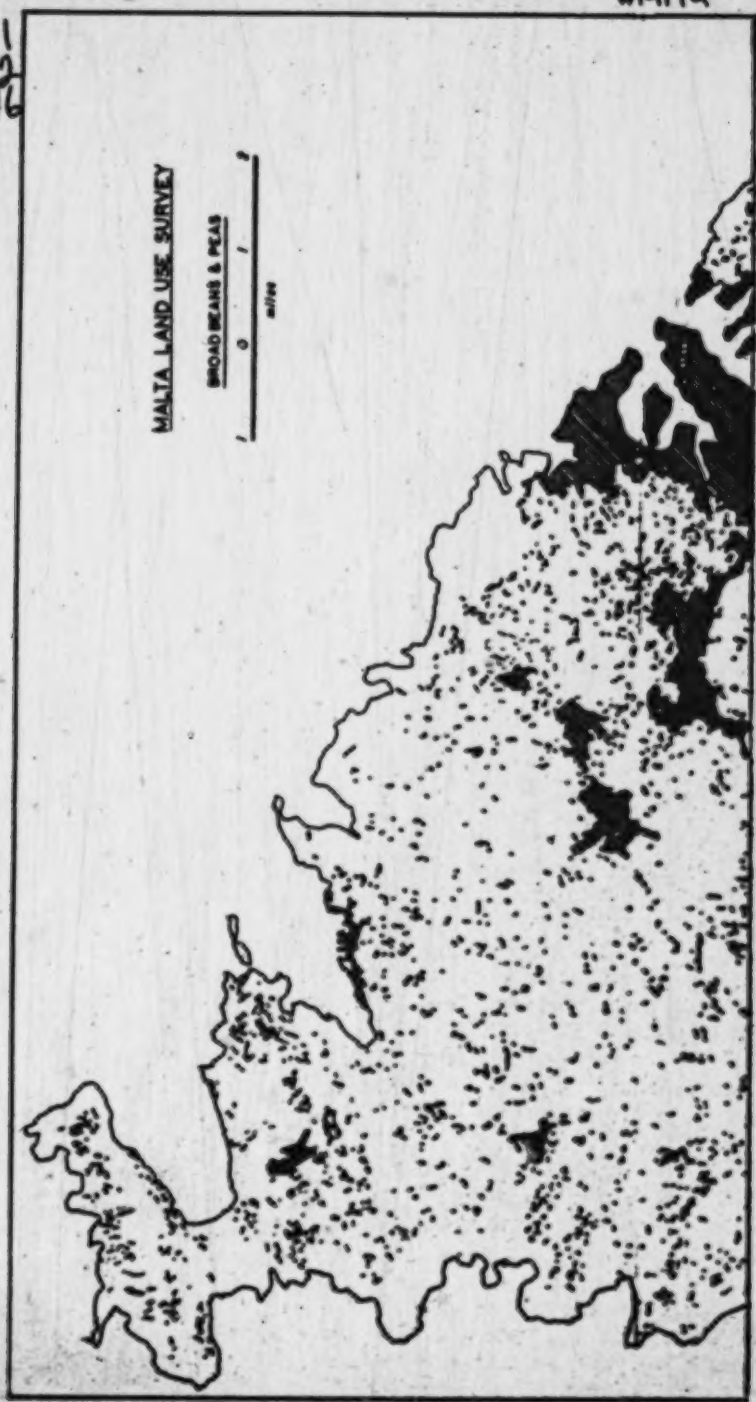

[p. 206-A]

Fig. 77 Malta: Land Use Survey: Broad Beans & Peas.

1: Bowen-Jones et al. K-5 (1955-1958) 1961

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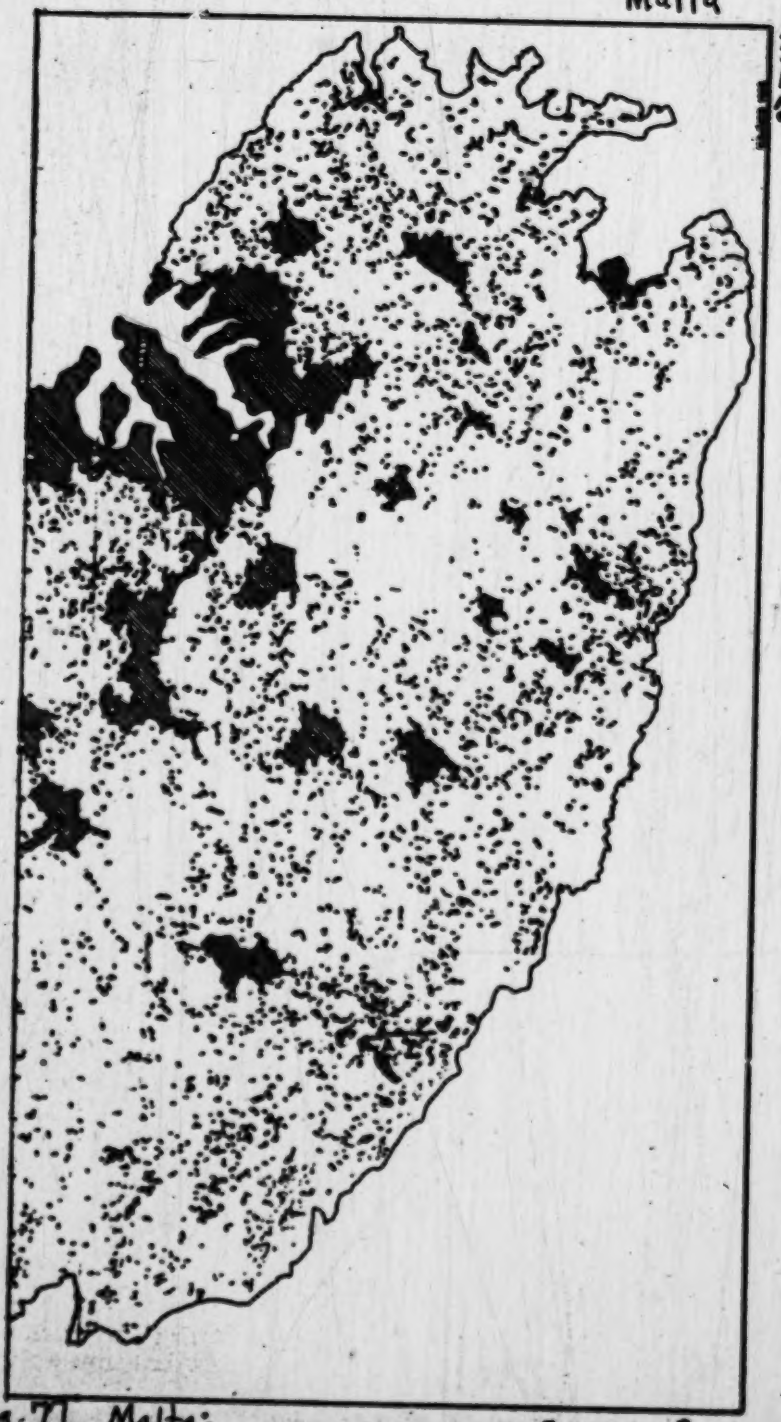

Fig. 71 Malta:
Land Use Survey: Broad Beans and Peas.

[p. 206-B]

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1: Bowen-Jones et al. K-5 (1955-1958) 1961
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Gozo

Fig. 78 Gozo: Land Use Survey; Broad Beans and Peas.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

been used as stock on to which lemons and sweet oranges have been grafted. Too great a variety of strains is cultivated, and too little grading is done to make citrus growing under difficult conditions a commercial proposition except in the home market. 311* 245

STONE FRUITS

Peaches and plums are found as wall-side crops in many areas. Irrigation improves their yields less than those of most other fruits and, since the water needs of the peach in particular are fairly low and soils generally suitable, commercial production for export to Northern Europe is at least a possibility.

POME FRUITS

Apples and pears are the only important members of this group. Apart from the *Bombaelli*, the small hard pears, efficient production implies the use of irrigation water by which means yields can be doubled or trebled. Production, at present sufficient for the home market, could be expanded. However, since handling and transport of these fruit is comparatively expensive and the complex organisation of European supplies is already established, better marketing facilities as well as an improvement in the quality of the crop would be required before any export sale could be established.

OTHER FRUITS AND NUTS

These range from pomegranates, grown, for example, as windbreaks in the Wied tal-Pwales, to loquats, which need irrigation, and almonds which, grafted on to wild peaches are prolific and hardy. Strawberries are grown on a limited scale in some of the irrigated areas. All these varieties, though distinguished in the original survey, are undifferentiated in Figs. 83 and 84. The distribution is clearly related to spring lines, Blue Clay outcrops and irrigated districts, and regional variations in the character of fruit farming are brought out in Chapter VIII.

FIG, CAROB AND PRICKLY PEAR

Fig trees are found for the most part along field edges and around farm-houses. Only in very rare instances do they occur in plantations though they are at times found growing in groves of mixed fruit trees. Of some importance domestically and in rural areas, the fig occupies an ecological position midway between that of the other fruits on the one hand and the prickly pear on the other. Physiologically well suited to dry soil conditions, fig trees require more shelter than the prickly pear and are less profitable on good land than are the stone fruits.

Prickly pear, of which only the spineless variety is grown, gives a poor fruit and serves as a reserve fodder. The young leaves are fed, chopped, to livestock when other fodder is in short supply. The nutrition provided is small but the water content is high. This plant is characteristically found on village and casal outskirts and in Malta it disappears in open country. In Gozo, where the leaves are often used to shelter growing vegetable plants, it is more widespread. Essentially a mark of primitive parochialism, the prickly pear sometimes occupies an unnecessarily large area of land and might occasionally be replaced by such plants as the sunflower, whose fodder value is much higher. A topic urgently in need of investigation is that of water extraction from neighbouring fields by wall crops of this kind. 311* 245 246

The carob is the tree of rough land and is rarely found on level areas, whatever their altitude. It has often been planted as much to disintegrate rock and boulders as to supply fodder. The beans have a very high fat and protein content but require feeding in moderation. Most of the large clumps in which this tree typically occurs are neglected and untended and are less productive than they could be. The import of carob beans into Malta would be appreciably reduced by more attention to the native trees. Under present conditions the carob is the only wasteland tree crop and its presence elsewhere denotes under-utilisation of better land.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

[P.317]

Chapter X

THE PRACTICE OF FARMING

We have considered at some length the physical and social environments in which Maltese farming exists, the distribution of crops and of agricultural regions, and examined some of the physical and legal characteristics of the land holdings in which the land is worked. There follows a more systematic statement and a tentative interpretation of farming practice, and studies of the Maltese countryfolk (Plate XVIII). 128

A. Livestock

Livestock in Malta, with the exception of the wandering, wasteland-feeding herds of sheep and goats, is rarely seen or heard. Cattle, pigs, poultry and rabbits are all kept in stockyards or enclosures, and horses, mules and donkeys, when not working in the fields, are stabled the whole time. Their near invisibility has caused us to omit mention of them in earlier sections. As noted in Chapter VII, the Maltese farmer, faced with land shortage as a result of the high population density, has chosen to cultivate stall-fed fodders as short-rotation crops rather than to grow pastures or perennial forages. It is difficult to believe that he has not made the correct choice if the criterion adopted is that of intensive and continual use of difficult land resources and the minimising of waste. 231 [246] 231

Numerically, goats are by far the most important (Plate XVII). During the past century, they increased tenfold in number, a fact which marks the amazingly rapid increase in milk consumption, but in the last decade the trend has been reversed. The indigenous breeds, highly regarded in the Mediterranean up to the close of the eighteenth century, have now almost entirely been replaced by crosses with introduced British Saanen types. These crosses, in which Saanen blood remains dominant to the third or fourth generation, are hardy and prolific milkers, considering the quality of feed. Goats have remained important not only because they still supply about 40 per cent. of returned milk sales (and a large amount produced domestically and sold illegally), but also because, together with sheep, they utilise the great extent of wasteland as natural pasture. Some feeding on field grown forages is practised - during the survey such feeding was observed at Marnisi on broad beans and at Wied Babu on sulla, for example - but this is rare. 234 311 [232] [246]

Land unusable for cultivation, and which makes up over 30 per cent. of the total area, provides the basic forage ration. Breeders and kids are given supplementary feeds of beans and hay crops. Although, therefore, goats are theoretically poor converters of fodder into milk, they cannot be displaced by milch cows without at once offending the tastes of most Maltese for goats' milk and cheese, and making the uncultivable land almost totally unproductive. Sheep, somewhat less numerous than pigs, and by far less valuable, occupy the same ecological niche as do goats. Used domestically in many areas for milking, and by far the cheapest meat animals, these predominantly hairy rather than woolled sheep, of a strong German strain, are one of the 'crops' of the barren lands. In the absence of statistics of fodder consumption, the only evidence available is that obtained in interview. It would certainly seem that sheep and goats use much uncultivated land in their demand for feed, and are almost the only media for obtaining any yield at all from one-third of the land of Malta and Gozo. (See also Chapter X C.)

Pigs, numerically the most important meat animals, are almost all of recently introduced breeds, the English Large White in particular. Berkshire, Wessex Saddleback and Middle White have been tried, but the Large White Yorkshire, even when bred for lean meat to an average weight of 180 lb., has 231 232

[See page 256 --Analyst]

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

231 proved its superior adaptability. An interesting point is that, before 1914, Serbia
232 and Croatia exported to Malta large numbers of pigs for fattening, while Yugo-
[131] slavia is today importing Large Whites as breeders from this country. It is now illegal to use other than pedigree boars for breeding, and the success of the Agricultural Department and the relative enthusiasm of the Maltese farmer in raising pig production standards have made Malta self-sufficient in this respect at least. Local grain and imported beans form the basis of feeding stuffs given by the best farmers. Animal slaughterings now average about 30,000 head per annum.

23 Of the total cattle population of some 6,000 in Malta and 3,000 in Gozo, nearly 30 per cent. are milch cows. This proportion has increased steadily since the first introduction of milch cows in the early years of British occupation. Before 1800, the indigenous Maltese breed, raised as general purpose stock in normal
[197] peasant tradition, alone was of importance. During the nineteenth century, specialised breeds were slowly introduced, a process which culminated in trials with Swiss Brown, Polish and Jersey cattle during the 1920's and '30's. By 1939, the cattle were mainly of mixed blood with the older strains predominating, and those still found are rapidly being displaced because of their low milk yields of some 1 to 1¼ gallons a day. The only surviving registered Maltese bull is to be seen on a farm at Bingemma Gap. In the post-war period, imported Ayrshires, British Friesians and Durham Shorthorns have proved very successful and popular. The Friesian strains in particular are very effective for crossing, important in that most country herds are still of mixed blood. A typical composition was noted in a stockyard on Delimara Peninsula - 13 milk cows and three heifers consisting of pure polled Maltese, Friesians, Friesian/Maltese crosses, Ayrshire/Maltese crosses, together with seven Friesian and crossed Friesian
[139] calves. Store cattle, of which over 3,000 are annually imported for fattening, are of various breeds, and come in the main from within the Mediterranean region.

231 This cattle population, which supplies half of the total production of milk in
234 Malta, and approximately two-thirds in Gozo, as well as over 75 per cent. of the beef consumed, is a very special element in Maltese agriculture. The imported store cattle have but to be fattened for slaughtering. Trustworthy statistics are lacking, but it would seem that over one-half of the imported fodder is consumed for this purpose.

The milch cows are given a maintenance ration of sulla and other leguminous fodders, and a production ration of imported beans, grains and cake. Carob beans and chopped prickly pear are sometimes used, and *oxalis cernua* may also be fed in moderation.

231 This large demand for fodders has so far been met by maintaining at high
234 level the production of leguminous and grain crops. Only in recent years has it become economic to add high protein feeds. For social and health reasons the human consumption of high protein foods, milk in particular, has been
246 encouraged. It has therefore often been suggested that further concentration on production of forage crops is necessary.

It is probable that such a policy would be both uneconomic and impracticable. In the first place, as long as it requires an average of 6 lb. weight of fodder protein to produce 1 lb. weight of animal food protein, then any country with restricted land resources has to look twice at the wastage involved. Such a country, having to import either animal products or vegetable products, or even both as in the case of Malta, has little to gain by specialising in a production technique in which over three-quarters of the crops grown and imported for feed merely go to maintaining livestock in existence. Thirdly, since that land now grazed by sheep and goats is virtually unusable in any other way, they cannot be simply replaced by cattle. More cattle would mean less arable farming of food crops and this would entail either the loss of potential vegetable exports from irrigated land or, more feasibly, the improvement of arable dry-farmed crops, e.g. sorghums in place of barley.

The impracticability of a policy designed vastly to increase forage production may be proved as follows. The growing of perennial fodder crops is out of the

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

question unless a complete agricultural revolution committed Maltese farming 231
to thorough-going dairy farming specialisation. Such specialisation, given the 234
climatic and physiological difficulties, would not be easy to justify. A very con- 246
siderable seasonal glut of milk exists between May and August at present, and the Milk Marketing Undertaking cannot handle the flush. This degree of fluctuation could be lessened but not removed. Costs of production are such that not only would exports be uneconomic but imported tinned milk can and could considerably undercut home production. Local consumption of fresh cows' milk could not be expanded much more than 10 to 15 per cent. above the present level which is already the highest in the Mediterranean, as long as tinned milk is more easily preserved, and as long as the rural community keeps goats and sheep. The banning of milk imports and of the production of goat milk would hardly be in the consumer's economic or dietetic interests.

Horses, mules and donkeys, some 6,500 in number, are still very important 492
as work animals. For farm transport, they can only be replaced by the internal 407
combustion engine purchasable only by the more prosperous cultivators. Produce collection by merchants' lorries is increasing as also is the use of hired tractors for cultivation. The numbers of these animals is unlikely to decrease quickly outside the urban areas because of their usefulness in tilling difficult land.

Of the remaining small livestock, rabbits and poultry already make a very 231
large although immeasurable contribution to food supplies. Improvements in 235
quality could be obtained if farmers' interest was aroused. At present, mixed breeds of poor poultry are commercially uneconomic.

In conclusion, we must return to the vexed question of dairy-farming and 234
milk production in Malta. In 1950, the Director of Agriculture (1) put the 654
question: 'Under prevailing conditions in Malta and Gozo, which is the more profitable animal to keep? The cow or the goat?', and followed with the statement: '... no accurate answer backed by accurate scientific data has ever been given'. The same impasse had often been noted before, for example by Dawson Shepherd (2), and Stockdale (3). An unpublished report on Maltese Agriculture by a visiting F.A.O. commission (4) similarly found itself at sea in the absence of any firm information. In 1956, the complexity as well as the obscurity of the situation was manifested in a Report on the Dairy Industry by G. W. Ford (5). In this study, reference is made to the different conclusions reached by independent observers, and to intermediate suggestions made by Marshall (6), one of whose remarks: 'I simply cannot visualise hygienic milk production by the peasant farmer in Malta', our observations would endorse.

Milk-production in Malta is no longer a matter of economics but, as in many countries, is affected by social and dietetic policies. Brief mention was made in Chapter VI C of the problem of the incidence of undulant fever and its association with milk infected by *Brucellosis Melitensis*. Some 20 per cent. of Maltese goats are thus infected, and any dietetic campaign to encourage the drinking of milk, particularly important in child welfare, must take account of this. Few cows are thus far infected and elimination is easier. The problem that emerges is therefore both economic and social in character. It is felt by some that reliance on imported tinned milk is one solution but by others such a suggestion is regarded as humiliating. Another possible line of action is to replace goats with milch cows, and in 1956 a system by which herdsmen were offered one Dutch Friesian heifer in calf for 12 diseased goats actually came into operation. The third possibility is to accept the position as it exists at the moment, or slightly to modify it, and centralise milk distribution thus enabling pasteurisation. This too has been done. Even now however, the cost of tinned milk imports, the cost of producing cows' milk, the surplus of goats' milk, all these as well as the land use point mentioned earlier, still remain to be dealt with. As we shall see, the market for milk called into being as a social measure is now the mainstay of many farmers of all grades. The development of the centralised agency, the Milk Marketing Undertaking has been accompanied by a guaranteed price system. Some 50 per cent. of all milk producers have, as a result of this organising of wholesale purchases, formed their own union the K.M.H. - '*Kumpanija Maltija*

Pawlu's holding at Easter, 1958.

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Origin of TENURE	1958 T S K[49]	No longer held in 1959 T S K[49]
From own family on his marriage in 1955...	5-5-5	4-3-8
From own family since his marriage	7-4-5	
From his bride's family at marriage	5-0	16-0-0
From non-relatives, all since 1955	28-0-3	
	42-5-3	20-3-8

OWNERSHIP of land held by Pawlu.		Plots		Plots
Church (Cathedral (Mdina).....	3-4-0	5	16-0-0	var
Church (Gharb.....	1-0-3	4		
Church (Benefizzju (agent).....	4-3-0	2		
Civil Government.....	3-5-0	2		
Other farmers.....	4-0-0	2		
Sinjur (a Xewkija Baron).....	5-0	1	1-1-8	2
Owned by Pawlu himself.....	4-0	1	1-0-0	1
Sub-leased (4-yearly) from 8 farmers who hold on long lease, or own.....	24-0-0	var.adj.		
Military authorities.....	0		0	
No information.....			3-0	1
Notary (agent).....			1-5-0	2
	42-5-3		20-3-8	

The details of the 20-3-8 relinquished by Pawlu are significant:

Sub-let because of small-size and inaccessibility.....	7-0
Sold because of inaccessibility.....	1-0-0
Abandoned because of distance & inaccessibility.....	1-0-0
Option declined because of distance.....	16-0-0
Exchanged.....	1-2-8
	20-3-8

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On sixteen of his twenty-six plots of land Pawlu pays annually about £24 in rent. On average this works out at about 4 shillings per tomna for rough grazing land and £1.1.6d per tomna of cultivable dry (baghli) land. Pawlu himself receives an income of 5s 6½d per annum as rent for two small patches (totalling slightly more than a tomna) which he sub-lets. He himself owns the pivotal centre of his farm, and four sighan on which stands his house, cattle byre, coat shed, store rooms and small enclosures.

*159
234
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[246]

Pawlu's present policy is to expand fodder production in order to eliminate much of the very high cost of purchased fodder. Along with this he is keen to acquire the use of rough grazing land for his goats where he can do so cheaply. The large block of this type of rough grazing which Pawlu acquired piece-meal during 1957 and 1958 makes the supervision of the animals easier than would be the case if he had to graze them in small fields adjacent to land carrying standing crops. Pawlu is cutting down the quantity of vegetables produced for sale each year since he is without any guaranteed market or price. He aims nevertheless to produce as much of the family requirements as possible.

[244]

*159 234 premises were deemed by the sanitary authorities to be unfit for animals. He has no goat pens near his house but is prevented by the lack of capital from making substantial improvements in his facilities. Owing to shortage of space, he prefers to buy in fully-grown animals rather than to breed his own, which would be cheaper. Fodder storage [246] (he produces just enough sulla to feed his own goats) is a further problem and he tries to 'make do' with odd corners of often unsuitable space.

*159 241 433 Crop production is geared to the provision of fodder for the goats, together with the supply of vegetables for the family, and grapes (for wine), some tomatoes and other items for casual sale to local shops.

*159 434 The income side of his budget depends on the proceeds from the milk sold to the M.M.U. In August, 1957, he was getting about 16/9d a day for the milk sold. His grapes for 1957 brought him a further £66. His largest expense is fodder (apart from sulla) and its price is a constant [427] cause of grumbling and bitterness by Guzepp. Rents for 1957 totalled £35, that is about £1 per tomna for good land (generally red soiled 'hamrija') and 15/- for poorer, whiter ('abjad') soils. His cropping illustrates a common [241] practice in Maltese farming in that he tends to plant more [433] of a crop which has just had a 'good' season and thereby frequently suffers from glut conditions. Thus in 1958 he aimed to plant a large area to marrow (gargha baghli) because "last year's crop was good". In the previous year he had been unable to get all the potato seed he would have liked but, at the end of the season, was able to buy in potatoes very cheaply for the table because of the general glut in the crop which he had, as it transpired, fortunately avoided.

*159 438 443 Guzepp, like most farmers, is very critical of the great gulf between the price given by the pitkal and that paid by the consumer. In a small way he strives to avoid this by selling some of his produce directly in the local village, but this brings him only some £12 per annum.

X 159 511 829 178 Expenses are few apart from food, clothing and a few extra items such as Church contributions. His bill for entertainment is practically nil and his children are not yet old enough to demand large sums of pocket money - which one foresees they will do. Guzepp is very anxious to enlarge his farm and his herd and to improve his accommodation. In this development one feels he is looking to the future support of his now school-age sons. Certainly the older of these seem at present to look forward to following in their father's footsteps. But it is clear also that Guzepp's own deep attachment to the land and to farming is

H. General.

159 433 This farmer is typical of many herdsmen. Without capital or land he derives from previous generations of peripatetic herdsmen who milked their goats on the 'rounds' of urban houses. Now forced to sell his milk to a centralised agency (the N.M.U.) for pasteurisation he is protected from price decline during the summer season of over-production but prevented from obtaining extra profits and perquisites (often of rather a dubious character). Without capital he has to rely on credit terms for fodder purchases and therefore pays merchant prices which are higher than those of other farmers. A garden plot and the stock supplies about half the family's food, without which increment the family economy could not operate. There is no possible future except on a low level for this type of production.

159 231 232 CASE VI : Gaetu (A milk producer with a considerable land holding.)

In May, 1957, Gaetu had 9 cows and about 50 goats. During the year he sold some thirteen goats for the abattoir and of the eight kids born in the year several died "because they didn't want to go on living". In November of the same year three of his cows had to be killed, two of them on account of 'paralysis of the feet' (probably related to lack of exercise and perpetual stall-feeding). The goats get scarcely more grazing than the cows, being limited to the small yards adjoining the main farm building (v. Map 8).

The compulsory slaughter of the three ailing cows (for which he will be entitled to import replacements) has profoundly shaken Gaetu's faith in cows in general. He maintains that he "will put his efforts into goats for the loss of a goat means a loss of £10 against the £200 in the case of a cow."

159 234 [311] [246] [435] [464] Together with his adult son, Gaetu works 23 tmien of land, including some which is irrigable; and the emphasis in cropping is heavily on fodder production. But they still have to buy in a considerable amount of feed. For example in the 1956-57 winter Gaetu spent £175 on sulla, £99 for straw, and £15 on winter potatoes which were in glut. He feeds his animals according to yield which appears to mean that he gives more food and attention to the better yielding animals. "There is no profit in providing expensive fodder for poor-yielding animals." In fact, however, Gaetu has [451] very little appreciation of his profit. None of his labour or that of his son is counted as a cost and he keeps no detailed account of income and expenditure. He gets receipts from the M.M.U. but otherwise, being illiterate himself, feels "reluctant to ask anyone for a written [65] statement". Nevertheless he reckons to be able to put together some sort of balance sheet for the income-tax authorities each year.

159 For once a single man can be convinced of the success of a
829 novel method or crop he will soon be copied by his follows.
178 Wenzu himself observes that when he had heard about the
246 lucerne for the first time and had planted some with great success in his own fields neighbouring farmers were not slow to copy him (v. Section 4).

CASE VII : Summary.

159 (A goats' and cows' milk producer with a small land holding.)

423 A. Land.

427
- Has 3 timon, worked by another farmer who shares income (£21) with him.
- Holds on lease a further area which had been let out for building and brings him £32 p.a. - much more than could be obtained for its crops.
- Also rents grazing in summer months.

159 B. Utilisation.

24
- The 3 timon field is under sulla, barley and a few vegetables.

C. Livestock.

159
- Is changing over from goats to cattle.

23
- Goats: 1954: 60; 1957: 44; 1958: 38.

234
- Cattle: 4 Friesians. Aims to build up the herd by private import of Ayrshires of which he has a high opinion. 3 of the cattle are owned by his sons though he tends them.

159 D. Capital.

[454]
- No information, but appears to have some reserves.

E. Labour.

[464]
- Some assistance from a son who is in govt. employment.
- Hires no labour.
- Thus does great bulk of the work himself.

F. Production and Sales.

[434] [234]
- Milk (Oct. 1957) 10 gallons goats' milk, 9 gallons cows' milk daily to M.M.U. Gives sons a share in income though they appear to make no payment to their father for fodder, stall accommodation etc.
- Calves and kids usually sold after weaning.

159 G. Husbandry.

23 (1) Grazing. Where possible, goats grazed out and this is said to save him 15/- a day and to reduce sulla consumption to 4 bundles daily.

[427]
- Rents 7 timon of govt. land from part-timers at £1 per month from Jan. to Aug.

[311]
- This land is good, cultivable land untended because of part-timers' inability to work it.

(2) Fodder.
- Cake, barley, potatoes, beans, sulla.
- Feeds all that the animals will take.
- Buys in bulk when prices low.
- In six months (Oct. 1957-Mar. 1958) used nearly ½ tons of cake and 15 tons of beans.

[435] [434]
- Sulla is bought at 9/- to 16/- per hamel according to quality and uses some 200 hmiel per annum.
- Fodder costs leave very small profit margin from milk.

159 H. General.
- Attempting to profit from sales to M.M.U. with no knowledge of the economics involved.

156
- Extremely suspicious of agents, government etc.

159 178 234 substantial herd to hand over to their sons who, however, show no inclination to stay in farming.

*159 232 829 234 A glance at their herd reveals their interest to be in quantity rather than quality. They admit, moreover, that they lack a good deal of knowledge on management of a herd of this size. A number of their cattle die from diseases and ailments of which Antnin and Ġakbu have little appreciation - official sources revealed that two which died in 1957 had anthrax. Their own inclination is to slaughter an ailing animal for meat before it dies naturally. If a cow dies without replacement from the Government they become very resentful. They also suffer a high death rate among imported calves and again blame 'Government'. "The Government never tells us anything about the rearing of animals" assert the two men somewhat naively since they also maintain that "no-one but the farmers knows farming".

*159 234 231 In 1958, twelve of the cattle were Bastard-Inglizi type As the sanitary authorities would not grant a license for a larger herd to occupy the present makeshift accommodation (a patch-work, corrugated iron shed) Antnin and Ġakbu aimed to replace these Bastard-Inglizi with the same number of Friesian stock, though would have preferred to have gone on increasing the number in their herd - and thereby the amount of milk sold to the M.M.U.

*159 234 433 [246] Antnin insists that "cows yield according to the amount they are fed". When asked for an estimate of the cost of producing a gallon of milk he asks "Who knows?" ("Min jaf?"). The fields held by the two men produce a considerable amount of fodder but much more has to be purchased. During glut conditions they feed very cheap cauliflower and, in the dry months between June and September, give the herd prickly pear at the rate of a lorry-load per day. They are almost unique among cows' milk producers in Malta and Gozo in that they are able to graze their animals on War Department land nearby although they have no guarantee of tenure.

*159 434 426 Despite the large holding of land and the recent rapid increase in the size of the herd, the financial position of Antnin and Ġakbu is precarious in the extreme. They are operating in a permanent state of DEBT, and have a fluctuating debit account with the dealer who supplies them with fodder (cf. Case V). This makes them reluctant to take on any new debts at high interest rates. The Government loans at 1% do however appeal to them as means of buying more cattle and still further increasing their milk production. Their debt is such that the two friends can rarely keep female calves but have to sell them to pay hire-purchase instalments on cows.

9: Luke G-5 (ca. 1920-ca. 1960) 1960
EZ6 Malta EZ6

(and where do they not exist?), his book gave a certain amount of offence in the more sensitive quarters of the island. None the less, it includes a chapter which should have atoned for any "causes of stumbling" created in those quarters. The chapter is entitled "Dolores" and concerns the Shepherds' Maltese maid-of-all-work and their baby's nurse. "Dolores" is not only a telling tribute to some of the salient virtues of the Maltese character; it is one of the most sensitive and moving descriptions of the personal devotion of a servant to her employers and her charge that I have had the good fortune to read.

4

A word has been said earlier in this chapter as to the grandeur of the cliff scenery of Malta. Inland, on the other hand, the countryside can scarcely be called either grand or impressive, and during the dry summer months there is little colour to set against the brown aridity of the fields other than the sage of the olive, the carob and the fig-trees, and the pinks and whites of the oleanders beside the roads. But after the autumn rains have begun to refresh the parched earth the land rapidly assumes a mantle of young green, and the wild flowers appear shyly above ground, beginning with two lovely miniature blooms—the brilliantly blue *Iris minuta* and the even more ethereal, strongly scented "*satarina*" (*N. serotinus*). This, the tiniest of the narcissi, looks as if it had been called into being by a touch of the fairy's wand in Walt Disney's *Fantasia*.

Later, in March and April, Malta and Gozo alike seem to glow with the crimson, deepening into purple, of the *sulla*, the clover or sainfoin with which thousands of acres are sown for fodder. Among the most striking blends of colour are those produced by many varieties of Bougainvillæa (which flourishes exceedingly in Malta) and the purple-and-cream flowers of the wild caper, against the background of the rich gold of the fortifications.